

Amendments to the Claims:

Please amend the claims as follows.

1. (Currently amended) A gear shift device for bicycles having at least one derailleur, a first body adapted to be attached to a bicycle frame, and a second body that can be displaced with respect to the first body to cause the selective engagement of a bicycle chain on a number of sprockets, to achieve the various gears of the device, the device comprising:

an electric actuator for displacing the second body relative to the first body;
and

an absolute transducer mounted on the device for detecting an absolute position of the second body, the transducer comprising:

two electric tracks and a contact with at least one point engaged in sliding contact respectively with the two tracks, wherein the two tracks are electrically connected and the contact is used to close a circuit between the two tracks, and variation in the position of the contact gives rise to a variation in electrical resistance and produces a corresponding signal indicating the absolute position of the second body.

2. (Original) The device according to claim 1 wherein the transducer is a resistive transducer.

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3. (Original) The device according to claim 1 wherein the transducer is a rotary potentiometer.

4. (Original) The device according to claim 1 wherein the transducer is a linear potentiometer.

5. (Original) The device according to claim 1 wherein the transducer is a magnetic transducer.

6. (Original) The device according to claim 1 wherein the transducer is a rotary magnetic transducer.

7. (Original) The device according to claim 1 wherein the transducer is a linear magnetic transducer.

8-10. (Cancelled)

11. (Currently amended) A gear shift device for a bicycle having a transmission chain, a first body for attachment to a bicycle frame, and a second

body, pivotably associated to the first body, which selectively engages the transmission chain, the device comprising:

an electric actuator mounted on the device that displaces the second body relative to the first body; and

an absolute transducer mounted on the device that detects an absolute position of the second body, the absolute transducer comprising

two circular electric tracks; and

a contact coaxial with the tracks, with at least one point engaged in sliding contact respectively with the two tracks;

wherein the two tracks are electrically connected and the contact is used to close a circuit between the two tracks, and any variation in the position of the contact gives rise to a variation in electrical resistance and produces a corresponding signal indicating the absolute position of the second body.

12. (Original) The device according to claim 11 wherein the transducer is a potentiometer.

13. (Original) The device according to claim 11 wherein the transducer is a magnetic transducer.

14 (Original) The device according to claim 13 wherein the magnetic transducer is a linear magnetic transducer.

15-16. (Cancelled)

17. (Currently amended) A method for constructing a device which positions and determines the position of a transmission chain on a bicycle having a frame and a plurality of sprockets which are selectively engaged by the transmission chain, the method comprising:

attaching a first body on the bicycle frame in proximity to the plurality of sprockets;

pivotably associating a second body to the first body about an axis for selectively positioning the transmission chain on one of the plurality of sprockets;

attaching an electric actuator to the device which positions the second body relative to the first body for positioning the transmission chain;

attaching an absolute transducer to the device for detecting an absolute position of the second body, said absolute transducer being coaxial with the axis.

18. (Previously presented) The method of claim 17 wherein the transducer comprises a potentiometer.

19. (Cancelled)

20. (Previously presented) The method of claim 17 wherein the transducer comprises a magnetic transducer.

21. (Currently amended) A gear shift device for bicycles having at least one derailleur, a first body attachable to a bicycle frame, and a second body that can be displaced with respect to the first body, which in turn causes engagement of a bicycle chain from one toothed crown to a toothed crown, the device comprising:

an electric actuator that displaces the second body relative to the first body when it receives a gear shifting request, said displacement moving the chain from the one toothed crown to the second toothed crown; and

a transducer that detects at least two positions of the second body relative to a position of the first body, wherein when one of said positions corresponds to a position where the chain is engaged with the second toothed crown, the transducer outputs a signal that selectively disables the electric actuator;

wherein the transducer comprises two electric tracks extending face-to-face, and a sliding rod with a piston that acts as a movable contact designed to close a circuit between the two tracks, wherein the electrical resistance through the circuit

changes based on a position of the sliding rod that corresponds to the position of the second body relative to the first body.

22. (Previously presented) The device of claim 21 wherein the transducer is an absolute transducer that detects the positions of the second body relative to the first body.

23. (Currently amended) A gear shift device for bicycles having at least one derailleur, a first body attachable to a bicycle frame, and a second body that can be displaced with respect to the first body, which in turn causes engagement of a bicycle chain from one toothed crown to a toothed crown, the device comprising:

an electric actuator that displaces the second body relative to the first body when it receives a gear shifting request, said displacement moving the chain from the one toothed crown to the second toothed crown; and

a transducer that detects multiple positions of one of the first or second bodies relative to the other of the first or second bodies, wherein when one of said positions corresponds to a position where the chain is engaged with the second toothed crown, the transducer outputs a signal that selectively disables the electric actuator;

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wherein the transducer comprises two electric tracks extending face-to-face, and a sliding rod with a piston that acts as a movable contact designed to close a circuit between the two tracks, wherein the electrical resistance through the circuit changes based on a position of the sliding rod that corresponds to multiple positions of one of the first or second bodies relative to the other of the first or second bodies.

24. (Previously presented) The device of claim 23 wherein the transducer is an absolute transducer.

25. (Currently amended) A gear shift device for bicycles having at least one derailleur, a first body attachable to a bicycle frame, and a second body that can be displaced with respect to the first body, which in turn causes engagement of a bicycle chain from one toothed crown to a toothed crown, the device comprising:

an electric actuator that displaces the second body relative to the first body when it receives a gear shifting request, said displacement moving the chain from the one toothed crown to the second toothed crown; and

an absolute transducer that detects at least two positions of the second body relative to a position of the first body, the transducer comprising:

two electric tracks and a contact with at least one point engaged in sliding contact respectively with the two tracks, wherein the two tracks are

electrically connected and the contact is used to close a circuit between the two tracks, and variation in the position of the contact gives rise to a variation in electrical resistance and produces a corresponding signal indicating the absolute position of the second body relative to the first body.

26. (Currently amended) A gear shift device for bicycles having at least one derailleur, a first body adapted to be attached to a bicycle frame, and a second body that can be displaced with respect to the first body to cause the selective engagement of a bicycle chain on a number of sprockets, to achieve the various gears of the device, the device comprising:

an electric actuator for displacing the second body relative to the first body;
and

a transducer mounted on the device for detecting a position of the second body relative to a position of the first body, the transducer outputting a signal that selectively disables the electric actuator, the transducer comprising:

two electric tracks and a contact with at least one point engaged in sliding contact respectively with the two tracks, wherein the two tracks are electrically connected and the contact is used to close a circuit between the two tracks, and variation in the position of the contact gives rise to a variation in

electrical resistance and produces a corresponding signal indicating the absolute position of the second body relative to the first body.

27. (Currently amended) A gear shift device for a bicycle having a transmission chain, a first body for attachment to a bicycle frame, and a second body, pivotably associated to the first body, which selectively engages the transmission chain, the device comprising:

an electric actuator mounted on the device that displaces the second body relative to the first body; and

a transducer mounted on the device that detects a relative position of the second body with respect to the first body, wherein the transducer outputs a signal that selectively disables the electric actuator, wherein the transducer comprises two electric tracks extending face-to-face, and a sliding rod with a piston that acts as a movable contact designed to close a circuit between the two tracks, wherein the electrical resistance through the circuit changes based on a position of the sliding rod that corresponds to the position of the second body with respect to the first body.

28. (Currently amended) A method for constructing a device which positions and determines the position of a transmission chain on a bicycle having a

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frame and a plurality of sprockets which are selectively engaged by the transmission chain, the method comprising:

attaching a first body on the bicycle frame in proximity to the plurality of sprockets;

pivotably associating a second body to the first body for selectively positioning the transmission chain on one of the plurality of sprockets;

attaching an electric actuator to the device which positions the second body relative to the first body for positioning the transmission chain;

attaching a transducer to the device for detecting a position of the second body relative to a position of the first body, wherein the transducer outputs a signal that selectively disables the electric actuator, wherein the transducer comprises two electric tracks extending face-to-face, and a sliding rod with a piston that acts as a movable contact designed to close a circuit between the two tracks, wherein the electrical resistance through the circuit changes based on a position of the sliding rod that corresponds to the position of the second body relative to the first body.